c.) Remarks

The specification was amended to correct several typos noticed upon further review.

Claims 1-34 are pending in this application. Claims 1-4, 6, 11, 13-15, 18, 20-21, 23, 27, 29, and 31-33 have been amended in various particulars as indicated hereinabove. Claims 35 and 36 are new.

I. Turning now to the merits, Claims 1-4, 6-14, 16-29 and 31-33 were rejected under 35 USC 102(b) over Monaghan et al (GB 2335288, Monaghan '288). Applicants respectfully traverse this rejection and assert the following.

It is well established that a claim is anticipated under 35 U.S.C. §102, only if each and every element of the claim is found in a single prior art reference.[1] Moreover, to anticipate a claim under 35 U.S.C. §102, a single source must contain each and every element of the claim "arranged as in the claim."[2,3] Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference.[4] If each and every element of a claim is not found in a single reference, there can be no anticipation.

Applicants assert that Monaghan '288 does not disclose a seamless molded or coated substrate with a laser ablatable polymer layer. Furthermore, in one of the elements of the invention claimed in amended Claim 1, the first and the second locations, as well as the size, pitch and orientation of the first and second pixels, are controlled by a computer and a position device, as also where the size of the two pixels is controlled by varying the cross-section of the interfering laser beams. Monaghan '288 discloses on page

1 *Veregal Bros. v Union Oil Co. of California, 814 F.2d 628, 631, 2USPQ2d 1051, 1053 (Fed. Cir. 1987).*
2 *Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).*
3 *Lewmar Marine Inc. v. Barient, Inc., 827 F.2d 744, 747, 3 U.S.P.Q. 2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 484 U.S. 1007 (1988).*
4 *Titanium Metals Corp. v. Banner, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).*

6 that a computer controls the stepping operations of motors and the pulsing of the laser. No disclosure of the above-described claim elements could be found in Monaghan '288.

Applicants therefore request that the rejection under 35 USC 102(b) be withdrawn and Claim 1 as amended be allowed.

Claims 2-4 and 6-10 depend off now allowable Claim 1 and are allowable.

Similarly to the reasons presented above, Claim 11 as amended is directed to a method of direct writing a holographic pattern on a seamless molded or coated cylinder or belt. The method comprises a step in which a plurality of diffraction gratings are formed, wherein the position, pitch and orientation of each of the gratings is controlled by a computer and a position device, and wherein the size of each grating is controlled by varying a cross-sectional size of the first and second laser beams. No disclosure of such elements could be found in Monaghan '288.

Applicants therefore request that the rejection under 35 USC 102(b) be withdrawn and Claim 11 as amended be allowed.

Claims 12-19 depend off now allowable Claim 11 and are allowable.

Applicants also assert that no disclosure in Monaghan '288 teaches the surface (or layer) of the substrate or base which is laser ablatable and later serves as an embossing surface for embossing the ablated pattern onto another embossable surface. For example, Claim 6 and Claim 18, and their respective dependent Claims 35 and 36, are directed to the materials which are laser ablatable, but also serve as an embossing surface after the ablation. Therefore, Claims 6 and 18 and their dependent Claims are allowable.

Claim 20 as amended is directed to a method of seamlessly creating a holographic pattern on a seamless molded or coated surface. In particular, the method calls for creating the pattern in a pixel-by-pixel fashion, in which each grating has a pitch, position, orientation and size. The pitch, orientation, position of each grating is controlled by a computer and a position device, while the size is controlled by varying a cross-sectional size of the first and second laser beams. Applicants respectfully assert that no disclosure of the invention as Claimed in amended Claim 20 could be found in Monaghan '288.

Applicants therefore request that the rejection under 35 USC 102(b) be withdrawn and Claim 20 as amended be allowed.

Claims 21-26 depend off now allowable Claim 20 and are allowable.

Claim 27 as amended is directed to a system for holograpically ablating a seamless molded or coated substrate having an outer polymer layer. Using an optical system, a position control means and supporting means, the system ablates the predetermined pixel on the polymer layer. The pixel is a diffraction grating having a pitch, position, orientation and size. The position, pitch and orientation of the diffraction grating is controlled by a computer and a position control means, and the size of the diffraction grating is controlled by varying a cross-sectional size of the two laser beams. No disclosure of such system could be found in Monaghan '288.

Applicants therefore request that the rejection under 35 USC 102(b) be withdrawn and Claim 27 as amended be allowed.

Claims 28-34 depend off now allowable Claim 27 and are allowable.

II. Claims 11-17, 19-23, 25, 27-31 and 33-34 were rejected under 35 USC 102(b) over Monaghan (US 6,388,780, Monaghan '780). Applicant respectfully traverses the rejection and asserts as follows.

Similarly to the arguments presented above, Monaghan '780 does not disclose a method for directly writing a holographic pattern on a molded or coated cylinder or belt, wherein the position, pitch and orientation of each of the gratings is controlled by a computer and a position device, and wherein the size of each grating is controlled by varying a cross-sectional size of the first and second laser beams, as claimed in amended Claim 11.

Monaghan '780 does not disclose a method of seamlessly creating a holographic pattern on a seamless molded or coated surface. In particular, creating the pattern in a pixel-by-pixel fashion, in which each grating has a pitch, position, orientation and size. The pitch, orientation, position of each grating is controlled by a computer and a position

device, while the size is controlled by varying a cross-sectional size of the first and second laser beams, as in amended Claim 20.

Monaghan '780 does not disclose a system for holograpically ablating a seamless molded or coated substrate having an outer polymer layer. Using an optical system, a position control means and supporting means, the system ablates the predetermined pixel on the polymer layer. The pixel is a diffraction grating having a pitch, position, orientation and size. The position, pitch and orientation of the diffraction grating is controlled by a computer and a position control means, and the size of the diffraction grating is controlled by varying a cross-sectional size of the two laser beams, as in amended Claim 27.

Therefore, Applicants respectfully assert that the rejection under 35 USC 102(b) with respect to amended independent Claims 11, 20, and 27 should be withdrawn and these Claims should be allowed together with their dependent Claims.

Also, Applicants also assert that no disclosure in Monaghan '780 teaches the surface (or layer) of the substrate or base which is laser ablatable and later serves as an embossing surface for embossing the ablated pattern onto another embossable surface. For example, Claim 6 and Claim 18, and their respective dependent Claims 35 and 36, are directed to the materials which are laser ablatable, but also serve as an embossing surface after the ablation. Therefore, Claims 6 and 18 and their dependent Claims are allowable over Monaghan '780.

III. Claims 1-34 were rejected under 35 USC 103(a) over Monaghan '288 in view of Monaghan '780. Applicants respectfully traverse the rejection and assert as follows.

For an obviousness rejection to be proper, the Patent Office must meet the burden of establishing a prima facie case of obviousness. The Patent Office must meet the burden of establishing that all elements of the invention are disclosed in the cited publications,

which must have a suggestion, teaching or motivation for one of ordinary skill in the art to modify a reference or combined references.[5] The cited publications should explicitly provide a reasonable expectation of success, determined from the position of one of ordinary skill in the art at the time the invention was made.[6]

Similarly to the arguments presented above, each of the cited publications separately or combined does not disclose all elements of the invention as arranged in independent amended Claims 1, 11, 20, and 27. In particular, no disclosure of the position, pitch and orientation of the diffraction grating on a seamless molded or coated surface being controlled by a computer and a position control means, and the size of the diffraction grating being controlled by varying a cross-sectional size of the two laser beams was found in the combined publications. Therefore, Applicants assert that independent amended Claims 1, 11, 20, and 27 satisfy the patentability criteria of 35 USC 103(a) and should be allowed together with their respective dependent claims.

Moreover, the combination of publications cited by the Patent Office does not disclose the surface (or layer) of the substrate or base which is laser ablatable and later serves as an embossing surface for embossing the ablated pattern onto another embossable surface. For example, Claim 6 and Claim 18, and their respective dependent Claims 35 and 36, are directed to the materials which are laser ablatable, but also serve as an embossing surface after the ablation. Therefore, Claims 6 and 18 and their dependent Claims are allowable over Monaghan '288 in view of Monaghan '780.

IV. Claims 1-34 were rejected under 35 USC 103(a) over Monaghan '288 in view of Monaghan '780, further in view of Langille et al (Langille '157), Rumsby GB 2222696, Jelly et al (US 5,377,027, Jelly '027), Chazan (US 6,752,966, Chazan '966) or Andrews

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5 In re Sang Su Lee, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).
6 In re Fine, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); In re Wilson, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970);
Amgen v. Chugai Pharmaceuticals Co., 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996);

(US 2003/0020785, Andrews '785). Applicants respectfully traverse the rejection and assert the following.

The combination of the above-referenced publications, cited by the Patent Office, refers to various materials that the publications describe as laser ablatable. Similarly to the argument presented above, the cited combination of publications does not disclose the methods or system with elements directed to ablating holographic patterns in the form of diffraction gratings on a seamless coated or molded surface wherein the position, pitch and orientation of the diffraction grating on a seamless molded or coated surface being controlled by a computer and a position control means, and the size of the diffraction grating being controlled by varying a cross-sectional size of the two laser beams was found in the combined publications. Therefore, Applicants assert that independent amended Claims 1, 11, 20, and 27 satisfy the patentability criteria of 35 USC 103(a) and should be allowed together with their respective dependent claims.

Applicants also assert that no disclosure in the combined publications teaches the surface (or layer) of the substrate or base which is laser ablatable and later serves as an embossing surface for embossing the ablated pattern onto another embossable surface. For example, Claim 6 and Claim 18, and their respective dependent Claims 35 and 36, are directed to the materials which are laser ablatable, but also serve as an embossing surface after the ablation. Therefore, Claims 6 and 18 and their dependent Claims are allowable over the combination of cited publications.

Applicants believe that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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